

HIGH QUALITY, COST-EFFECTIVE FILM-TO-VIDEO CONVERTER FOR  
HIGH DEFINITION TELEVISION

ABSTRACT OF THE DISCLOSURE

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High definition video signals are pre-filtered and down-sampled by a video converter system to standard definition picture sizes. Standard definition motion estimators employed for field rate up-conversion are then utilized to estimate motion vectors for the standard definition pictures. The resulting motion vectors are scaled and post-processed for motion smoothness for use in motion compensated up-conversion of the field rate for the high definition pictures. The associated memory size and bandwidth requirements and overall cost render consumer electronics implementations for motion compensated field rate up-conversion of film material to high definition video commercially viable while preserving picture quality.